

Understanding Hypertension Management: Knowledge and Beliefs among Indonesian Women

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ABSTRACT

OBJECTIVE: Patient education is an essential aspect of hypertension management, especially among women, and understanding cultural backgrounds and beliefs is significant because they shape how the community perceives hypertension and its treatment. This study aims to explore the level of knowledge about hypertension in women, particularly their understanding of hypertension management.

METHODOLOGY: This cross-sectional study was conducted in April 2022 among older adults with hypertension registered in six different community clusters in Indonesia. The Hypertension Knowledge-Level Scale (HK-LS) questionnaire was used to collect knowledge data along with demographic characteristics.

RESULTS: The vast majority agreed that high systolic and diastolic blood pressure from measurement indicates an increased blood pressure (91,27%). They are also aware that hypertension can cause several complications such as early death (93,27%), vision problems (80,55%), stroke (79,30%), heart disease (70,57%), and renal failure (55,86%) if left untreated. A contradiction in the respondent's beliefs was observed in disease management. While most respondents agree that the medication should be taken daily and for a lifetime (92,77%), most respondents also agree that lifestyle changes are unnecessary if the medication can control blood pressure (92,27%).

CONCLUSION: This study revealed mixed knowledge and beliefs about hypertension, particularly in the aspect of disease management, in which there is contradictory knowledge that lifestyle changes and medication are two different aspects as separate components in hypertension management.

KEYWORDS: Knowledge, Hypertension, Disease management, Women, Beliefs, Lifestyle Modification

INTRODUCTION

The burden of non-communicable diseases (NCD) keeps increasing, where approximately 17.7 million global fatalities are the result of cardiovascular conditions, including stroke and myocardial infarction, along with hypertension as one of the significant underlying risk factors for both conditions¹. Currently, 1.39 billion people globally have hypertension, and by 2025, it is estimated that the number will rise to 1.56 billion, with most of those affected living in low- to middle-income nations².

According to a report from Indonesia in 2018, up to 23 million people (8.8%) of the country's population suffer from hypertension³. Another dataset from the May Measurement Month (MMM) assessment in Indonesia

stated that from 69.307 individuals screened, at least 34.5% had hypertension, of which 63% had uncontrolled blood pressure despite receiving antihypertensive medication, and 20% were not treated⁴. Another study stated that the awareness and control rates were also low, which reported that in 47.8% of patients suffering from hypertension, more than half (70%) had not received a formal diagnosis. On the other side, less than half of patients (37%) were aware that they had hypertension, and only 25% had controlled blood pressure⁵.

There still needs to be more hypertension awareness despite several campaigns over the past ten years in Indonesia⁶. Moreover, comorbidities associated with hypertension often result in polypharmacy, which further impairs the compliance of the patient⁷. The high prevalence of hypertension also has a substantial impact towards the economy; national insurance data reported that the amount spent on services related to hypertension rises annually, rising from IDR 2.8 trillion to IDR 4.2 trillion in 2014 and 2016, respectively⁸.

Demographic studies have shown that in individuals younger than 65 years of age, hypertension is more commonly diagnosed in men compared to women, but this distribution changes as they age, in which hypertension becomes more common in older women compared to men⁹. Steeper rise of hypertension in this group is a result of several risk factors exclusive to women such as menopause, gestational hypertension or preeclampsia, and contraceptive use. It made them

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a susceptible population that should be explicitly targeted for hypertension management¹⁰⁻¹². Patient education is an essential aspect of hypertension management, especially in specific populations, and understanding cultural background and beliefs might be significant as they shape how communities perceive hypertension and its treatment¹³⁻¹⁵. Along with the need for patient education, previous evidence emphasized the urgency and importance of understanding patients' knowledge or beliefs regarding hypertension that might influence their attitude toward the disease. Previous studies stated that nonadherence to antihypertensive medications might reflect the contrast between healthcare providers' and patients' beliefs regarding the etiology and management of hypertension, signifying how the understanding of community knowledge played a pivotal role in formulating educational strategies¹⁶. However, only a few reports on hypertension knowledge in women are available. Therefore, this study aims to explore their knowledge of hypertension, particularly their understanding of hypertension management.

METHODOLOGY

Study Design

This cross-sectional study was conducted in April 2022 among older adults with hypertension registered in six community health centres in Lhokseumawe, Indonesia. Of the 600 hypertensive patients registered, 401 participated following the inclusion criteria of 1) Diagnosed with primary hypertension by a general physician confirmed by medical record data or 2) Prescribed the antihypertensive drug.

Demographic data such as marital status, religion, ethnicity, occupation, and education are collected. Data regarding clinical characteristics such as hypertension stage, body mass index (BMI), and waist circumference were also collected. Blood pressure was measured with an electronic device while the patient was seated, and BMI was calculated using measured height and weight. The waist circumference was measured while the patient was standing for weight measurement. After the physical measurement, patients were asked to complete the Hypertension Knowledge-Level Scale (HK-LS) questionnaire. The questionnaire comprises 22 questions regarding hypertension knowledge, including identification, management, and complication, with correct and incorrect answers¹⁷. Collected data were analyzed using the Stata statistical software. Frequency and percentage reports were provided regarding the respondents' clinical characteristics, demographics, and knowledge.

This study was approved by the Faculty of Nursing Ethics Committee, Universitas Syiah Kuala (Letter No. 113020301221). Each respondent signed a written informed consent and participated voluntarily.

RESULTS

Among 401 women who participated in this study, the majority were Acehnese (91,02%), married (78,05%), worked as a housewife (71,57%), and attended middle-high school (61,40%). Clinical characteristics showed that more than half of respondents were in stage I hypertension (59,10%), overweight (54,11%), and normal waist circumference (53,12%). All of the respondents were Muslim. Details of the demographic and clinical characteristics of the study respondents are shown in **Table I**.

Table I: Demographic characteristics of study respondents

Characteristics	n	(%)
Marital Status		
Single	6	1,50
Married	313	78,05
Widow	82	20,45
Ethnic		
Acehnese	365	91,02
Non-Acehnese	36	8,98
Current occupation		
Retired	26	4,74
Housewife	387	71,57
Self Employed	68	16,96
Civil servant	27	6,73
Education		
Do not attend school	23	5,74
Elementary school	85	21,20
Middle-high school	247	61,40
Higher education	46	11,47
Stage of Hypertension (Blood Pressure)		
Stage I (140-159 mmHg)	237	59,10
Stage II (160-180 mmHg)	164	40,90
Body Mass Index (BMI)		
Underweight	19	4,74
Normal	165	41,15
Overweight	217	54,11
Waist Circumference		
Normal	213	53,12
High	188	46,88

Overall, Indonesian women with hypertension have various levels of knowledge and expectations regarding their disease. Most (91,27%) agreed that high systolic and diastolic blood pressure indicates

increased blood pressure. They were also aware that hypertension could cause several complications such as early death (93,27%), vision problems (80,55%), stroke (79,30%), and heart disease (70,57%) if left untreated, but only about half of them aware that untreated hypertension cause renal failure (55,86%). However, contrary to the previous statement, most respondents also agree that an increase in blood pressure is a consequence of aging, and treatment may not be required (95,51%).

Regarding lifestyle changes, almost all respondents show no specific preference for dietary habits and food processing methods, and they agree that red meat (92,52%) and white meat (94,51%) are suitable for patients with hypertension. More than half of respondents agree that frying is the best cooking method (80,55%), while only about half agree that boiling and grilling are the best (55,36%). Most respondents agree on smoking and drinking avoidance (92,02 and 67,08%, respectively) and fruit and vegetable consumption (73,57%).

Regarding disease management, less than half of respondents agree that medication should be taken as they please or only when they are unwell (43,39, and 22,94%, respectively), and most of the respondents agree that the medication should be taken daily and for a lifetime. A conflicting result was also found; while most respondents agree that medication is a necessity, vast amounts of respondents also agree that lifestyle changes are not necessary if medication can control the blood pressure (92,27%); many even believe that they are allowed to eat salty food if they take the medication routinely (87,53%). The details of the answers proportional to the respondent's knowledge of hypertension are illustrated in **Figure I**.

DISCUSSION

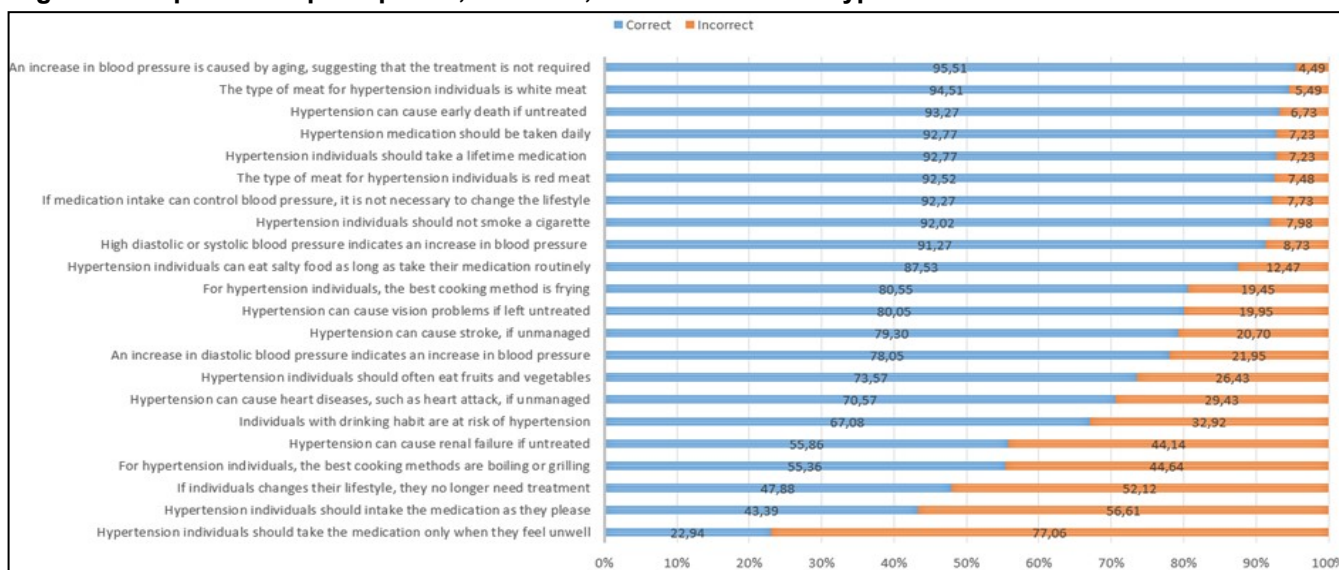
A previous study stated that globally, less than 25% of hypertensive patients have controlled blood pressure,

and less than half are aware of their illness and take antihypertensive medications. Although there are variations in the proportions between high- and low-income countries regarding awareness (67.0% vs 37.9%), medication usage (55.6% vs 29.0%), and blood pressure control (28.4% vs 7.7%), with progress and milestones reached over the past decade, the issue of hypertension management is not exclusively confined to low-income countries¹⁸. The information previously provided shows that patient compliance and treatment awareness are just as significant as health resources in addressing the issue of hypertension. On the other side, a previous study in Indonesia also reported that most patients had low knowledge regarding hypertension, and this may be potentially a fundamental problem for hypertension management in the community¹⁹.

Respondents showed mixed results in perceiving the lifestyle changes. On one side, they understand the importance of smoking and drinking avoidance and the need to consume fruit and vegetables. Still, on the other side, they seemed to show no specific preference for dietary habits (choosing meat type) and food processing methods (frying, boiling, or grilling). In perceiving management, respondents show a misperception, in which many respondents also agree that lifestyle change is unnecessary if medication can control blood pressure. Many even believe that they are allowed to eat salty food if they take the medication routinely. This belief that medication intake and lifestyle changes do not have to be applied together could impact blood pressure control in this population and hinder the management of the disease.

Improving patient self-management is essential for lowering blood pressure and enhancing BP control^{20,21}. The main goal should be a shift in the patient-clinician relationship towards a more proactive patient in disease management and decision-

Figure I: Respondent's perceptions, attitudes, and beliefs about hypertension



making²². However, this strategy may not be implemented in cases where wide gaps in patients' knowledge exist, and this may be attributed to healthcare providers who need more time to explain the necessary information during hospital or clinic visits²³. In Indonesia, a previous study has reported several challenges in providing high-quality care by community health centres, including a shortage of medical staff, a heavy workload, and low coverage from the health insurance system²⁴. This condition poses a challenge for the healthcare system to focus on finding resources and developing programs to improve patients' self-management and associated interventions to improve patients' knowledge.

Some alternative programs have already been devised to combat this problem. One is community activities monitored by a community health centre called Integrated Health Service Post for the Elderly or *POSBINDU Lansia*, which offers simple BP checks and health education by cadre^{25,26}. The fact that the samples of this study were also the Integrated Health Service Post for the Elderly might explain the reasonable knowledge of hypertension among the respondents, even though some misperceptions reported might indicate a need for additional complementary programs or methods to increase the perception and understanding of the respondent.

Our findings demonstrate the necessity of a campaign to correct this misconception as a component of population-specific intervention strategies, such as systematic education with validated materials and concurrent and continuous assessment of patient understanding. Health campaigns could be done in many formats to attract a specific population. In these predominantly Muslim elderly women populations, home-based sessions and or campaigns by collaborating with religious figures might be appropriate, as stated by previous studies^{25,26}. Furthermore, physical activity should be maintained to promote older people's health.

A notable strength of this study comes from its findings, as to the best of our knowledge, it is the only study that addresses an underexplored issue regarding hypertension knowledge, particularly in the elderly women population in Muslim-majority communities. However, the descriptive nature of this study left much to be desired and warrants further research, mainly in exploring the potential impact of patients' religious or cultural beliefs on knowledge of hypertension and disease management. Another area for improvement is that the study participants needed to be more representative of the Indonesian population, as this study only covered a population from one district. Moreover, this study did not capture several variables that could influence disease management, including family environment, associated comorbidity, and access to healthcare providers. These limitations should be considered when conducting further studies.

CONCLUSION

This study revealed a mixed level of knowledge and beliefs about hypertension in Indonesian women, particularly in the aspect of disease management, in which a contradictory perception that lifestyle changes and medication are two different aspects that can be separated in hypertension management. To address this issue, further systematic education and knowledge assessment regarding hypertension management by stakeholders specified to this population are needed.

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AUTHOR CONTRIBUTION

Andala S: Conceptualization, Data collection, writing the original draft

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